

REMARKS

Claims 1-19 and 25-29 are pending in the application.

Claimed is a method for displaying an image only to an authorized user. A data image is generated. A mask image is generated from the data image. The mask image is a negation of pixels of the data image. A select signal is generated automatically by a controller. The data image or the mask image is selected alternately according to the select signal. The selected images are displayed sequentially on a display device to merge the data image and the mask image to provide a perceived gray image to an unauthorized user while, at the same time, displaying the data image only to an authorized user.

The Examiner rejected claim 1, 7, 11-12, 18-19, 25, and 27-29, as being unpatentable over Tourai (U.S. Patent No. 6,784,887) in view of Abe (U.S. Patent No. 5,488,492).

Tourai generates a display image and a dummy image. The dummy image is the same shape and size as the display image. However, the dummy image is not generated from pixels of the display image as claimed. The color of the pixels in the Tourai dummy image are grey or any acceptable color. Nowhere does Tourai display, show, teach or describe that his dummy image is a negation of pixels of the data image.

Thus, Tourai does not describe generating a mask image from pixels of the data image, wherein the mask image is a negation of the pixels of the data image.

In Tourai, the mode select signal is generated when a user presses a button. "The instruction input unit 104 is an input device for receiving instructions input by a user" and, by definition, needs a user to initiate mode selection instructions. Therefore, Tourai does not describe generating automatically a select signal with a controller.

Tourai cannot select alternately the data image or the mask image according to an automatically generated select signal.

Tourai does not provide a perceived gray image to an unauthorized user while displaying the data image only to an authorized user.

Tourai does not negate his display image. The Examiner states that the negation

of data images does not solve any stated problem. According to Tourai, the display image is normally displayed, and the dummy image is displayed when the dummy button is pressed. If a third party described by Tourai is near the display and the dummy button is pressed, **neither the user nor the third party can view the displayed image.**

This is a huge problem. Consider the user sitting in an airplane seat next to the third party, or in any other public place where third parties are present. The Tourai solution for privacy essentially makes the device inoperable as long as the third parties are nearby, because the dummy button would have to be pressed continuously.

By negating the data image and alternating the displaying of the data image and the mask image to make a perceived continuous image so that only the third party sees nothing while, at the same time, the user sees the data image, solves this problem elegantly.

As stated, Tourai does not describe generating a mask image from pixels of the data image, wherein the mask image is a negation of the pixels of the data image, generating automatically a select signal with a controller, selecting alternately the data image or the mask image according to the select signal, and sequentially displaying the selected images on a display device to merge the data image and the mask image into a perceived continuous image to provide a perceived gray image to an unauthorized user while displaying the data image only to an authorized user.

Abe needs to correct all of the above deficiencies to make a combination of Tourai and Abe obvious prior art. The Examiner states that Abe “discloses mask image as a negation of pixels of the data image.” No such thing is true.

Abe describes a color adjusting apparatus for tone control that uses an optical beam splitter to acquire separately a direct image and an inverted image. Nowhere does Abe disclose generating a mask image from **pixels** of the data image, wherein the mask image is a negation of the **pixels** of the data image. Abe performs no operations on his direct image to obtain the pixels of his inverted image.

The Abe control is achieved by superimposing the inverted image on the direct image to produce a **single** composite image using a color adjusting volume switch. The only possible interpretation of the superimposition and the composite image is that the two images are displayed at the same time. Tourai does not superimpose. Tourai only displays either the display image when only the user is viewing, or the

dummy image when the dummy button is pressed and a third party is viewing. The present invention alternates the data image and the mask image while both the authorized and unauthorized parties are viewing.

Like Tourai, the tone adjustment is manual and not automatic as claimed. However, the select signal in Abe is for controlling how the direct and inverted images are superimposed, and not for selecting alternately the data image or the mask image. If the select signal as described by Abe was used in Tourai, the display image and the dummy image would be superimposed and nobody would see anything anytime.

Abe does not describe using the select signal to sequentially display the selected images on a display device, merging the data image and the mask image into a perceived continuous image to provide a perceived gray image to an unauthorized user while, at the same time, displaying the data image only to an authorized user.

With respect to claim 7, it should be noted that Abe acquires the color and the inverted images separately. The mask image, as claimed, is derived from the data image.

With respect to claim 11, the Examiner states:

With regard to claim 11 Tourai discloses select signal generated by a random generator (the select signal is randomly generating the image on the display unit until a third party (i.e., unauthorized user) is viewing the image, then the select signal make sure that the 'dummy' image is displayed).

Applicant cannot find any language in Tourai that supports this statement. This statement seems to be lifted directly from the claims. This is improper hindsight.

As best as can be interpreted, the randomness according to the Examiner's interpretation has something to do with the appearance or arrival of a third party in the scene. The appearance of a third party, in and of itself, is at best a random event but not a signal.

Indeed, the signal that is generated by Tourai is anything but random. Instead, the signal is generated deliberately and is only an indirect consequence of the appearance of the third party. It is highly unlikely that the user would be pressing the dummy button at random to generate random signal. That indeed would be

dumb and useless. Therefore, the dummy button does not, in any way, describe a random single generated by a controller as claimed.

The Examiner states:

With regard to claim 12 Tourai discloses displaying images in pairs in random order at col. 4 lines 19-30 as normal and dummy image.

At column 4, lines 19-30, Tourai states:

The image output unit 1002 displays on the display 102 an
20 image based on the display data stored in the display image
buffer 105, and the image forming device 103 forms an
image based on the print data transmitted from the image
generator 1003.

The image generator 1003 adjusts the position and mag-
25 nification of the display image based on user specifications,
this adjustment being performed on the dummy data gener-
ated by the dummy image generator 1004 in the dummy
mode, or performed on the input data stored in the image
memory 106 in the normal mode, and stores the data in the
30 display image buffer 105. The image generator 1003 trans-

Applicant still fails to see the limiting words “displayed images occur in pairs so that each pair includes a first image and a second image in a random order.” There are no pairs of images above, and there is no random order.

The Examiner further states:

Please see the reply to the arguments above for claim 11. There are no set limits in displaying the images, the images are randomly displayed on the display until some actions are being taken (i.e., a third party is viewing the image).

Again, as stated above, the claimed randomness has nothing to do with a third party viewing the images. Instead, the claimed randomness is due to a select signal generated by a random number generator of a controller. In fact, the claims make it clear that both the authorized user **and** the third party are present at the same time

that both the data and mask images are displayed. Tourai precludes displaying data images in the presence of a third party, whether the presence of a third party be random or not.

With respect to claim 15, the Examiner states that Abe discloses negating pixels of the mask image. With all due respect, this is nonsense in several ways. First, the claimed invention negates pixels in a data image. The claimed invention does not negate pixels in the mask image. Second, Abe does not invert "pixels" anywhere.

For claims 18 and 19, see the above discussion for claims 11 and 12. As stated above, the inversion of color signals in Abe is on a totally different input optical signal than the optical signal used to acquire the direct image. Abe does not operate on the pixels of his direct image.

As stated above, Tourai in combination with Abe do not describe what is claimed.

For claim 27, Tourai does not describe an automatic selection of images.

For claim 28, see the discussion for claim 11, above.

As stated above, Abe cannot derive a mask image from a data image, whether they have pixels or not.

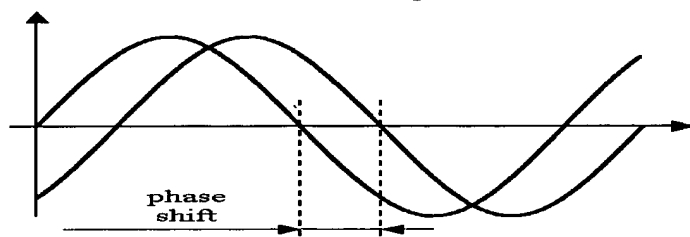
7. Claim 2-6, 10, 13-14, 16-17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tourai (US 6,784,887) in view of Abe (US 5,488,492) as applied to claims 1, 7, 11-12, 15, 18-19, 25 and 27-29 above, and further in view of Stern et al. (hereinafter, "Stern") (US 6,597,328).

The device describe by Stern synchronizes his active glasses to obscuring lights. There is nothing in Stern that synchronizes a shutter according to a select signal that is used to display images. Stern does not open an optical shutter when the data image is displayed and shut the optical shutter device when the mask image is displayed. Stern only displays private images that are present on the display screen all the time. Stern does not teach how displayed images are synchronized to a shutter mechanism.

Stern does not describe a polarizing lens on **either side of a ferro-electric liquid crystal polarization rotator**.

With respect to claim 7, Stern only describes time synchronization. The Examiner equates this to phase synchronization.

With all due respect, this is bad physics. A phase of a signal has nothing to do with time. In the ordinary meaning of the word, phase is “a point or stage in a period of uniform circular motion, harmonic motion, or the periodic changes of any magnitude varying according to a simple harmonic law to which the rotation, oscillation, or variation has advanced considered in its relation to a standard position or assumed instant of starting.”



This has nothing to do with time.

Stern does not display images according to any clock signals, see column 7, lines 21-33:

In order to properly synchronize the obscuring lights 10M and the active glasses 20 in a secure manner, a random cycle time between strobe cycles can be chosen and inserted into the synchronization signal. In order to encode a synchroni-
zation signal with a random cycle time, the encoder appli- 25
cation 10N can obtain a seed from random number generator 100 in order to create a random cycle time for use in synchronizing the obscuring lights 10M and the active
glasses 20. Specifically, as discussed in further detail herein, 30
the seed can provide a foundation for delaying the deacti-
vation of the obscuring lights 10M in a subsequent strobe
cycle, in between which the obscuring lights 10M can
remain activated.

The encoder application 10N can generate an obscuring 35
lights sync signal 13 according to the sequencing pattern.

Stern synchronizes obscuring lights and active glasses.

As stated above, the random signals used to select and display images are not described by Stern.

For claim 16, see the discussion regarding claim 2, above. Applicant does not understand the Examiner's following statement:

for claim 2 is equally applicable to claim 16. Please note that since the entire image is being displayed in the shutter device the pixel of the image are displayed as well.

The claimed images are not displayed in a shutter device of any kind.

Stern never selects images as in claim 17. Stern only turns obscuring lights on and off while open and closing active glasses. The private image in Stern is always displayed.

For claim 26, see the discussion regarding claim 2, above.

8. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tourai (US 6,784,887) in view of Abe (US 5,488,492) as applied to claims 1, 7, 11-12, 15, 18-19, 25 and 27-29 above, and further in view of Hiroaki (US 6,661,425).

With respect to claim 8, Hiroaki does not negate a color image. At column 14, Hiroaki describes:

color tone correction for an image (adjustment of brightness and/or contrast, gamma correction, adjustment of the hue, saturation, color tone, gradation, white balance or color balance etc):

This is the sum total of everything that Hiroaki says about gamma correction. Therefore, Hiroaki cannot describe the claimed gamma-correcting each color channel after the negation.

In claim 9, each input pixel of each color image has intensity in a range from 0 to 255, and each output pixel is determined by:

$$\text{output} = 255((\text{input}/255)^{1/\gamma}) + 0.5.$$

The Examiner states:

With regard to claim 9 Hiroaki discloses intensity in a range from 0 to 255 and outputs that as part of a mask image at col. 26 lines 58 to col. 27 lines 1-3.

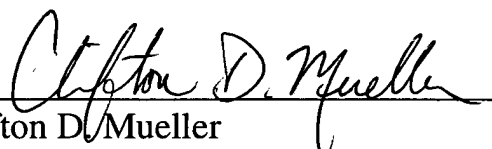
As stated above, the word "gamma" appears only once in Hiroaki. None of the limitations in claim 9 are described. Moreover, the mask pattern in Hiroaki is spatially superimposed with a given image, and not temporally interleaved as claimed.

All rejections have been complied with, and applicant respectfully submits that the application is now in condition for allowance. The applicant urges the Examiner to contact the applicant's attorney at the phone and address indicated below if assistance is required to move the present application to allowance. Please charge any shortages in fees in connection with this filing to Deposit Account 50-0749.

Respectfully submitted,

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